

all indications of the synonymy becomes a very serious defect. We do not mean that in a work like the present anything approaching a full synonymy could be given, but two or three of the synonyms of most importance, especially from a distributional point of view, would have added enormously to the value of the work.

Apart from this, however, the present work must be regarded as a most valuable contribution to the literature of Ichthyology. The species, as already stated, are all tabulated, and further they are described with quite sufficient detail to enable them to be readily identified; of a great number excellent woodcut figures are intercalated in the text, generally one or two under each genus; and each volume is provided with a full table of contents and a very complete index, which will render the book exceedingly easy to consult. The classification adopted differs somewhat as regards the sequence of the orders from that in general use, and indeed from that of the author's 'Fishes of India,' inasmuch as it commences with the Chondropterygii, which are directly followed by the Physostomi, and these by the Acanthopterygii, the remaining orders coming in the same sequence in both works. No reason is given for this change, which, however, is not of much consequence, as the book is not intended as a guide to Ichthyological classification.

In the conclusion of the Preface to the second volume the Editor informs us that a volume on Birds may very shortly be expected, and we hope that the concluding part of his own treatise on the Indian Mammalia will not be very long in making its appearance. The completion of this and of the other volumes on Birds and on the Reptiles and Batrachia will furnish students with a most valuable help in the study of the Vertebrata of the Indian region, and we can only repeat the hope that means may be found to enable the Invertebrate fauna to be treated in a somewhat similar manner. Of course the extent of the ground to be covered will always render it impossible to treat the groups of the Invertebrata in the style adopted in these volumes, but catalogues with tabulated characters would be of inestimable value to zoologists, and surely the men might be found to do the necessary work if only the authorities can see their way to carry out such a plan.

*Bergens Museums Aarsberetning for 1888.* Svo. Bergen, 1889.

THE Annual Report issued by the Museum at Bergen for the year 1888, besides the usual statements as to the state of progress of the establishment, and an obituary notice of Mr. A. Lorange, the late curator of its Antiquarian department, and a description with figures of some curious vessels, chiefly drinking-cups, formerly belonging to the guilds of Bergen but now deposited in the Museum, contains several articles of considerable interest to naturalists.

The first of these is a description by Dr. Danielssen of a new species of *Cerianthus*, which he names *C. borealis*, originally obtained

by him in 1858 near Molde and since found near Bergen and in the Hardangerfjord. Dr. Danielssen from the first regarded it as a distinct species, but his colleague in the production of the 'Fauna littoralis Norvegiæ,' the late Dr. J. Koren, came to the conclusion that it was identical with Gosse's *Cerianthus Lloydii*. Continued observation, however, has convinced Dr. Danielssen that the Norwegian species is quite distinct from *C. Lloydii*, and he now describes and figures it, with details, under the above name. As the two forms are very nearly allied it seems quite possible that *C. borealis* may occur upon our own coasts and have been hitherto regarded as belonging to *C. Lloydii*, so that a note of the characters attributed to the new species may be acceptable to some of our readers. Dr. Danielssen describes it as having an elongate cylindrical body, 36 millim. long, and living in a tube of about double that length and closed at the bottom. The body of the animal is a little wider in the middle, and tapers off especially towards the posterior extremity, where there is a round aperture. The upper margin, which is finely corrugated longitudinally, can be drawn over the buccal disk and tentacles so as to conceal them almost entirely. The buccal disk is somewhat depressed, and the oblong central mouth has two mouth-angles. The marginal tentacles are in two alternating rows, 18-27 in each row; they are not retractile, nor are the buccal tentacles, which are of the same number and arranged in two irregular series. The body is yellowish white, with the disk rather darker, and the tentacles have a brownish tinge.

The second article is a continuation of Mr. James A. Grieg's account of the results of his investigations of the fauna of the Westland fjords, in which he enumerates the Echinoderms, Annelides, Polyzoa, Myzostomida, and Pycnogonida obtained by him in the Møsterfjord. These notices of animal forms occurring off the shores of a country so near to us as Norway must be of considerable interest to British zoologists, and their value is enhanced by the statements with regard to mode of occurrence which are given in connexion with several of the species. In this paper Mr. Grieg also describes a new species of the Holothurian genus *Cucumaria*, under the name of *C. møsterensis*, which is figured with details in an accompanying plate.

In another article Mr. Grieg describes examples of the White-beaked Dolphin (*Lagenorhynchus albirostris*) captured in April last at Bildøen. Mr. Grieg gives a full description of the species with very carefully prepared tables of measurements of the various parts of the skulls and skeletons of individuals captured. A good figure is given of a female specimen.

Another zoological paper is that by Mr. G. Armauer Hansen on *Neomenia*, *Proneomenia*, and *Chatoderma*, in which the nomenclature and characters of those three Gephyrean genera are discussed and illustrated in a plate. Of *Neomenia* the author cites three species, namely, *N. carinata*, *affinis*, and *Dalyelli*; the last a form noticed by Dalyell under the name of "*Vermiculus crassus*;" the first originally named *Solenopus nitidulus* by Sars, but never

described by him. *Proneomenia*, a genus established in 1882 by Hubrecht, includes all the other *Neomenie* described by Koren and Danielssen in the account of the Norwegian North-sea Expedition, besides the type species, *P. Sluiteri* of Hubrecht, and a new species, here noted by the author under the name of *P. filiformis*. This is an important discussion of the characters of some exceedingly curious and obscure forms of animals.

Of the two remaining papers one contains an account of a curious series of experiments by Dr. J. Brunchorst on "Galvanotropism," or the peculiar influence exerted by the galvanic current upon the direction of growth of the roots of plants. This curious paper, which is illustrated with a considerable number of woodcuts, leads up to the following general result:—"The negative galvanotropic curvature depends upon irritant action and is so far analogous to the geotropic and heliotropic movements; while the positive galvanotropic curvature is simply a chemico-pathological phenomenon, having only a purely external analogy with the directional movements of the roots, and therefore does not deserve the name of galvanotropism."

The remaining paper in the volume consists of a long list of earthquake shocks recorded as having occurred in Norway since the year 1758. The number is very considerable, especially of late years, when, probably, a closer observation has been kept upon such phenomena. The author of this article is Mr. T. C. Thomassen, and in his concluding remarks some interesting generalizations will be found.

*Proceedings of the Bristol Naturalists' Society.* New Series, vol. vi. part i. for 1888-89. Pp. 1-164. 8vo. Bristol, 1889.

THE Zoologists have many interesting notes and papers in this part i. of vol. vi. n. s. Thus, the putrefactive organisms, discovered and described by the Rev. Dr. W. H. Dallinger, throughout their wonderful succession of forms, adapted more or less obviously to the dissolution and breaking up of decomposing matter, constitute a subject of great importance both in the elucidation of life and beings, and in explanation of the phenomena of putrefaction and fermentation.

In Entomology, Mr. W. K. Mann notices the rare lepidopterous *Heliothis scutosa* as having been caught in North Somerset; and Mr. G. C. Griffiths treats of Mimicry amongst the Lepidoptera. Snakes, their habits and their reputed power of fascination, are the subjects of two interesting papers by Dr. W. Duncan and Dr. A. J. Harrison. Some Birds exhibited at the meetings are mentioned, three of them rare in this country. Personal and collected observations on the Mole, by Mr. C. I. Trusted, are well worth noting. Mr. G. M. Smith gives a short account of the water-cells in the Camel's stomach. There is also a short but thoughtful note on the "perceptions of animals," by Prof. C. Lloyd Morgan; technically expressed,